Third Grade Physical Science
Grade Standards, Supporting Skills, and Examples

Indicator 1: Describe structures and properties of, and changes in, matter.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Comprehension)	**3.P.1.1. Students are able to describe physical properties of matter using the senses (touch, smell, etc.).** **Examples**: color, size, shape, hardness, opacity, flexibility, texture, smell, temperature, weight • Define the five senses. • Define solid, liquid, and gas.
(Application)	**3.P.1.2. Students are able to use tools to relate composition to physical properties.** **Example:** Use a magnifying glass to observe that matter is made of component parts. • Describe the basic characteristics of matter in relation to space and mass. • Recognize changes in matter from one state to another using water.
(Application)	**3.P.1.3. Students are able to demonstrate how a different substance can be made by combining two or more substances.** • Identify a mixture. Examples: Flour and water make paste. Flour, water, and salt make play-dough.

Indicator 2: Analyze forces, their forms, and their effects on motions.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
	(Mastery of this indicator does not emerge until fourth grade.)

Indicator 3: Analyze interactions of energy and matter.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	**3.P.3.1. Students are able to define energy and differentiate between sources of renewable and non-renewable energy.** • Describe renewable and non-renewable energy. Examples, renewable: wind and water Examples, non-renewable: coal and oil
(Application)	**3.P.3.2. Students are able to demonstrate how sound consists of vibrations and pitch.** • Relate the rate of vibration to the pitch of sound. Example: tuning fork vibrations • Low tones are caused by slow vibrations; high tones are caused by fast vibrations. Example: Varied levels of water in glass containers being struck create different pitches.
(Knowledge)	**3.P.3.3. Students are able to identify how sound is used as a means of communication.** • Give examples of kinds of communication. Examples: telephone ringing, train whistle, fire alarm, sirens, voice, and animal noises

Third Grade Physical Science
Performance Descriptors

Advanced	**Third grade students performing at the advanced level:** • compare and contrast the physical properties of granite and calcite; • predict what would happen if we overused a renewable or non-renewable energy/resource; • demonstrate how sound travels.
Proficient	**Third grade students performing at the proficient level:** • use a magnifying glass to observe and describe the physical properties of a rock; • demonstrate how individual materials combine to make a different substance; • define energy and label pictures of renewable and non-renewable energy; • demonstrate how sound consists of vibrations and how pitch changes; • explain the different ways sound is used to communicate.

Basic	**Third grade students performing at the basic level:** • recognize physical properties of object; • use flour and water to make a substance; • sort pictures of renewable and non-renewable energy; • recognize different pitches.

Third Grade Physical Science
ELL Performance Descriptors

Proficient	**Third grade ELL students performing at the proficient level:** • recognize physical properties of objects (solids, liquids, gases); • sort pictures of renewable and non-renewable energy; • recognize different pitches.
Intermediate	**Third grade ELL students performing at the intermediate level:** • know that objects have physical properties; • sort pictures of renewable energy; • name different pitches.
Basic	**Third grade ELL students performing at the basic level:** • name one physical property of a given object; • sort pictures of energy sources; • know that different pitches exist; • participate in science activities and experiments with other students: • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	**Third grade ELL students performing at the emergent level:** • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	**Third grade ELL students performing at the pre-emergent level**: • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.

Fourth Grade Physical Science
Grade Standards, Supporting Skills, and Examples

Indicator 1: Describe structures and properties of, and changes in, matter.

Bloom's Taxonomy Level	Standards, Supporting Skills, and Examples
(Comprehension)	**4.P.1.1. Students are able to describe observable physical changes and properties in matter.** **Examples:** solubility (matter dissolving into water) and density (floating and sinking) • Define matter.
(Analysis)	**4.P.1.2. Students are able to explain how some physical properties remain the same as the mass is changed.** **Example**: A block of salt will taste the same as a grain of salt. • Define mass.
(Comprehension)	**4.P.1.3. Students are able to differentiate between the states of matter caused by changes in temperature using water.** **Example:** from ice to water to water vapor • Define states of matter.

Indicator 2: Analyze forces, their forms, and their effects on motions.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Application)	**4.P.2.1. Students are able to demonstrate how forces act over a distance.** ***Example:*** *magnetism* • Define force.

Indicator 3: Analyze interactions of energy and matter.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	**4.P.3.1. Students are able to identify materials as being conductors or insulators of electricity.** **Examples:** aluminum, wood, paper, plastic, glass, rubber band, iron, and steel • Define a conductor and an insulator.
(Application)	**4.P.3.2. Students are able to construct and define a simple circuit.** **Examples:** open and closed circuits • Give examples of simple circuits. ✓ Define parallel and series circuits.
(Application)	**4.P.3.3. Students are able to use magnets, electromagnets, magnetic fields, and compasses to explore magnetic energy.** • Define magnets and their properties. ✓ Explain that electrical circuits can produce magnetic force. ✓ Demonstrate polarity using magnets and dry cells.

Fourth Grade Physical Science
Performance Descriptors

Advanced	**Fourth grade students performing at the advanced level:** • create water vapor; • design an electromagnet; • design an invention which conducts electricity; • demonstrate the difference between parallel and series circuits.
Proficient	**Fourth grade students performing at the proficient level:** • describe what happens to water when it is heated or cooled; • use magnets to define and demonstrate force at varying distances; • sort materials by their conductivity; • construct and define a simple electrical circuit.
Basic	**Fourth grade students performing at the basic level:** • identify the three states of water; • explore the capabilities of magnets; • construct a simple electrical circuit.

Fourth Grade Physical Science
ELL Performance Descriptors

Proficient	**Fourth grade ELL students performing at the proficient level:** • identify the three states of water; • know that magnets attract and repel; • construct a simple electrical circuit; • ask questions related to science topics.
Intermediate	**Fourth grade ELL students performing at the intermediate level:** • identify two states of water; • recognize the capabilities of magnets; • identify a simple electrical circuit; • give simple oral responses to questions on topics presented in class.
Basic	**Fourth grade ELL students performing at the basic level:** • identify the liquid state of water; • explore magnets; • know that simple electrical circuits exist; • participate in science activities and experiments with other students; • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	**Fourth grade ELL students performing at the emergent level:** • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	**Fourth grade ELL students performing at the pre-emergent level:** • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.

Fifth Grade Physical Science
Grade Standards, Supporting Skills, and Examples

Indicator 1: Describe structures and properties of, and changes in, matter.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	**5.P.1.1. Students are able to define matter on the basis of observable physical properties.** **Examples:** mass, volume, density, magnetism, physical state, and the ability to conduct heat, electricity, and sound • Explain the relationships among elements, molecules, and matter. Examples: carbon dioxide, water ✓ Explain differences and similarities between a solution and other mixtures and changes that occur within. Examples: solution (sugar dissolving in water) and mixture (trail mix)

Indicator 2: Analyze forces, their forms, and their effects on motions.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Knowledge)	**5.P.2.1. Students are able to identify forces in specific situations that require objects to interact, change directions, or stop.** • Give examples of ways gravitational forces affect every object.
(Analysis)	**5.P.2.2. Students are able to analyze the structure and design of simple and compound machines to determine how the machines make work easier by trading force for distance.** • Distinguish between simple and compound machines. Examples: lever, pulley, wheel, axle, inclined plane, wedge, screw Example: how scissors cut paper

Indicator 3: Analyze interactions of energy and matter.

Bloom's Taxonomy Level	Standard, Supporting Skills, and Examples
(Application)	**5.P.3.1. Students are able to demonstrate and explain how to measure heat flow into an object.** **Example**: Measure temperatures of various materials placed in sunlight. • Interpret a thermometer.
(Correspondence)	**5.P.3.2. Students are able to describe the Sun's ability to produce energy in the forms of light and heat.** • Understand that the Sun produces energy. Example: energy from the Sun stored in coal and plants ✓ Describe significant characteristics of different forms of energy. ✓ Explain energy transfers and transformation of light.
(Correspondence)	**5.P.3.3. Students are able to describe basic properties of light.** **Examples:** reflection, scattering, color spectrum, shadows

Fifth Grade Physical Science
Performance Descriptors

Advanced	**Fifth grade students performing at the advanced level:** • demonstrate how compound machines make work easier by trading force for distance.
Proficient	**Fifth grade students performing at the proficient level:** • identify matter according to its observable physical properties; • demonstrate how simple machines make work easier by trading force for distance; • measure the temperature of two different objects to compare heat flow; • describe basic properties of light (reflection, scattering, color spectrum, shadows).
Basic	**Fifth grade students performing at the basic level:** • define matter; • identify a simple machine; • measure temperature; • identify the spectrum of light.

Fifth Grade Physical Science
ELL Performance Descriptors

Proficient	**Fifth grade ELL students performing at the proficient level:** • define matter; • identify a simple machine; • measure temperature; • identify the spectrum of light; • ask questions related to science topics.
Intermediate	**Fifth grade ELL students performing at the intermediate level:** • use appropriate vocabulary to describe matter (volume, mass, density); • name a simple machine; • measure temperature; • name the colors observed in the spectrum of light; • give simple oral responses to questions on topics presented in class.
Basic	**Fifth grade ELL students performing at the basic level:** • use appropriate vocabulary to describe solids; • know that simple machines exist; • recognize a thermometer; • recognize the different colors in the spectrum of light; • participate in science activities and experiments with other students; • use correct pronunciation of science words; • respond correctly to yes or no questions on topics presented in class.
Emergent	**Fifth grade ELL students performing at the emergent level:** • use correct pronunciation of science words; • use non-verbal communication to express scientific ideas.
Pre-emergent	**Fifth grade ELL students performing at the pre-emergent level:** • observe and model appropriate cultural and learning behaviors from peers and adults; • listen to and observe comprehensible instruction and communicate understanding non-verbally.